
LAKE OKEECHOBEE PHYTOPLANKTON BLOOM MONITORING PROJECT

Mandate: Comprehensive Everglades Restoration Plan (CERP)
Lake Okeechobee Watershed Protection Program (LOWPP)

Background:

What is an algal bloom? An algal bloom is a dense growth of microscopic algae that results in water that looks green, may have a floating scum, and may have a distinct musty odor.

Why are we concerned about algal blooms? Algal blooms can cause problems with taste and odor of drinking water, they can contribute to the formation of carcinogenic chemicals in that water upon chlorination, and they sometimes can produce toxins that kill or cause disease in fish, wildlife, and domestic animals if they drink the water.

What is being done to prevent algal blooms? A large number of ongoing and planned projects in the Lake Okeechobee Protection Program aim to dramatically reduce inputs of nutrients to the lake; a main goal of this nutrient reduction is to reduce occurrence of algal blooms in the lake water.

Project Overview:

Algal blooms represent a significant risk to the Lake Okeechobee ecosystem and the human population that depends on this water resource for drinking water, recreation, fishing, and other uses. Algal blooms occur in a lake when high concentrations of nutrients enter the water and stimulate the growth of microscopic algal cells that naturally occur there. Their growth becomes much more rapid than normal, and under the right conditions (for example, warm water and high sunlight) these algae can reach such high levels that the water turns bright green, and sometimes a floating scum occurs on the water surface. The blooms are caused by a particular type of algae called blue-green algae, or cyanobacteria. Algal blooms can cause problems with taste and odor in drinking water, they can contribute to the formation of carcinogenic substances (trihalomethanes) in drinking water when it undergoes chlorination, and at times, they can produce toxins that can cause liver and neurological disease in animals and humans that drink or come into contact with the water. Blooms also can cause skin irritations, they can kill fish and other animals in the lake, and their appearance and odor can impair the recreational value of the lake.

The Lake Okeechobee Protection Program is implementing a number of projects in the watershed to reduce the input of nutrients to the lake. One of the main goals of this program is to substantially reduce the occurrence of algal blooms in the lake; blooms now are relatively common, especially in the summer months. The Lake Okeechobee Division at the South Florida

Water Management District is carrying out a monthly program to monitor the location and intensity of these algal blooms. This is a long-term program, designed to gather baseline data and then to identify trends in the occurrence of blooms in the lake as nutrient inputs are reduced. In other words, it is a program to assess both the present health of the lake, from the perspective of algal blooms, and our success in improving lake health in the long run.

We monitor algal blooms by collecting samples of surface water at 9 locations around the lake shore where this problem historically has been most severe. The sampling locations include sites where there is a high level of recreational use of the lake, and sites near major drinking water intake structures (Fig. 1). If there is a visible scum of algae on the water surface, digital photographs are taken and posted on this web site, along with information regarding the date and location of the surface blooms. Water samples are analyzed for nutrient (nitrogen and phosphorus) concentrations, and the concentration of chlorophyll, a plant pigment that provides a good rapid indicator of whether or not blooms are present. Chlorophyll values measured in the lake typically range from below 10 to above 100 parts per billion (ppb). Concentrations higher than 40 ppb are considered to represent a moderate bloom; the water at this level has a distinct green color. Concentrations higher than 60 ppb are considered to represent a severe bloom; the water at this level is heavily loaded with algae, surface scum may be present, and there may be a detectable odor.

In May of 2004, the District also began sampling for toxins, specifically Microcystin (a common toxin in the lake since the 1980's), along with algal bloom sampling in an effort to provide a more comprehensive database to keep track of the ecological health of the lake. Currently there are no state or federal guidelines for the level of toxicity and risk for lake systems but the World Health Organization suggests 1.0 microgram per liter for drinking water.

Bloom Monitoring Stations

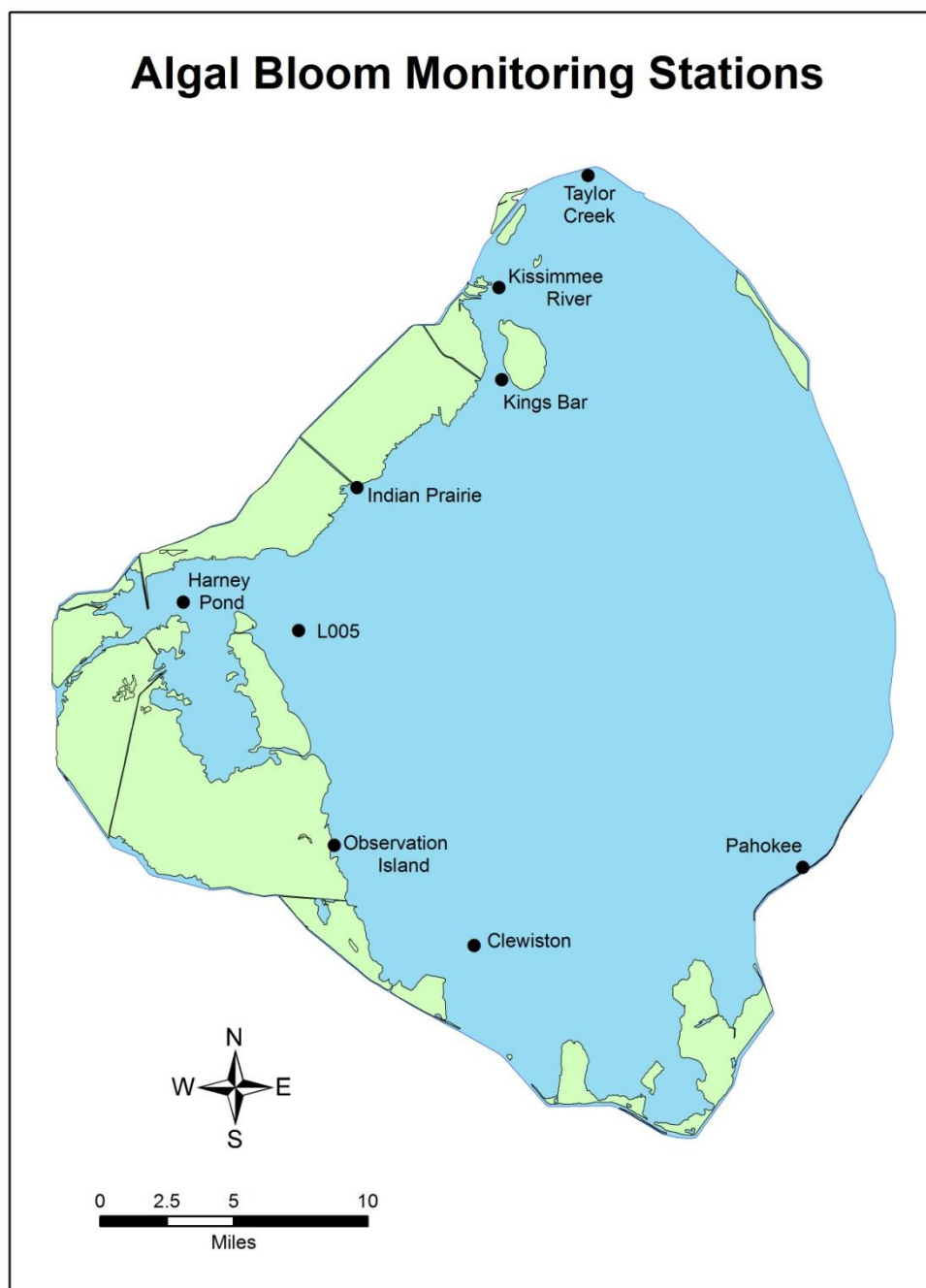


Figure 1. Monthly sampling locations for chlorophyll *a* and microcystin toxins.

How You Can Help

The South Florida Water Management District is aware that sport fishers and other users of the lake spend many days each month enjoying the benefits of this wonderful resource of the State. These persons are ideal observers of lake conditions, and often contact our staff about algal blooms or other problems that they notice in particular areas of the lake. This input helps us to better understand and ultimately protect the water resource.

If you observe an algal bloom in the lake (very green water and/or a floating scum of algae on the water surface), please contact Therese East in the Lake Okeechobee Division at 561-681-2500, ext. 4565 (e-mail: teast@sfwmd.gov).

If possible, make a note of the location (GPS coordinates if possible), the date, time of day, and general weather conditions at the time of observation. If you take digital photos, please consider providing them by email, for possible posting on this web site. Photos posted in this context will credit the person who took the picture.

Thank you!

Application of Results

Prior to June 2005 cyanobacterial toxin concentrations were quite low (Fig. 2). However, during the summer of 2005 many of the water bodies located within the SFWMD basin experienced prolific blue-green algal blooms. In Lake Okeechobee, Chlorophyll *a* and microcystin toxin concentrations were elevated from August to October with the highest concentrations observed in the Harney Pond/Fisheating Bay area. Hurricane Wilma struck in October 2005 and a significant decrease in both parameters was immediately observed, probably as a result of water column instability caused by wind and seiche activities. Chlorophyll *a* levels have remained below 25 mg m^{-3} and microcystin levels have been below the analytical limit of detection (0.2 ug L^{-2}) since Hurricane Wilma. The high suspended solids and resulting low light levels that persisted contributed to the lack of algal bloom formations and low toxin levels.

However, lake levels declined slowly throughout WY2007 and by January had gone below 12 feet NGVD. Since then, south Florida has experienced drought conditions and lake levels reached a record low of 8.82 feet NGVD on July 2, 2007. As a result of the drought, light conditions improved in the nearshore area but only a few small localized algal blooms have been observed along the western and northern shores of the lake during 2007 to 2009.

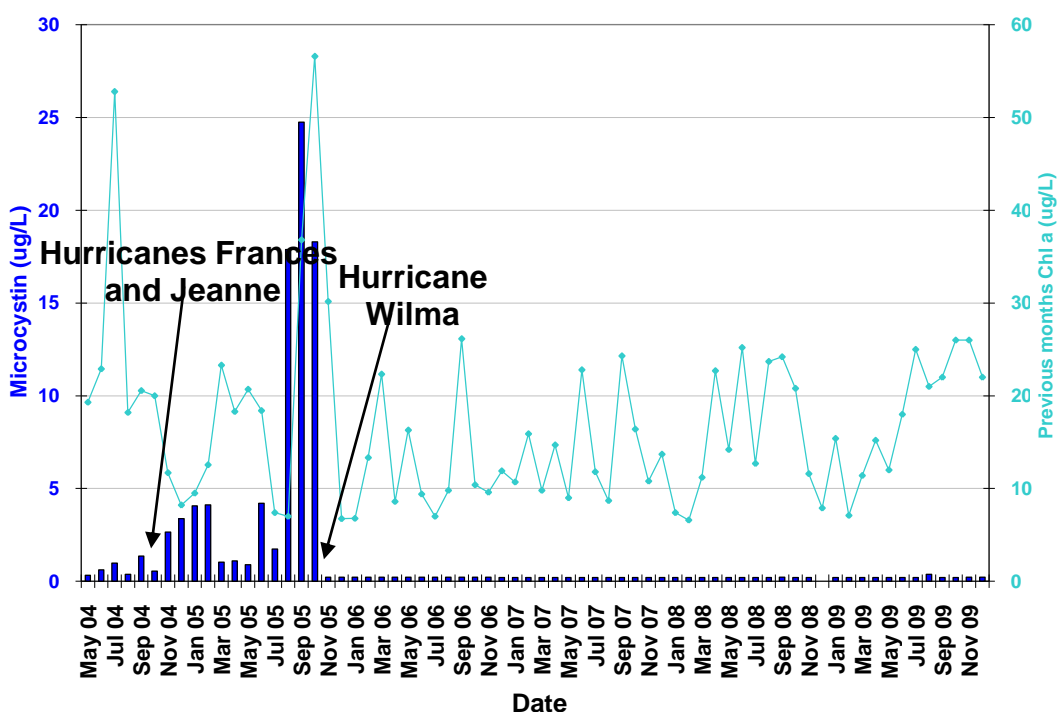


Figure 2. Average microcystin and previous month's average chlorophyll *a* levels in Lake Okeechobee from May 04 – Dec 09.

2010 Bloom Occurrence - Recent Conditions

This section reports observations regarding algal blooms on the lake and results of quantitative sampling for algal blooms based on measurements of chlorophyll *a* concentrations.

January, 2010

The chlorophyll *a* concentrations (corrected for phaeophytin) indicate that algal blooms (>40 ppb) were not present at any of the sampling sites and microcystin levels were all at or below the analytical minimum level of detection (0.2 ug/L).

Station (see map)	Chlorophyll <i>a</i> (ppb)	Bloom Condition	Microcystin (ug/L)
Pahokee	9	.	0.20
Clewiston	8	.	0.20
Observation	11	.	.

Island			
L005	8	.	.
Harney Pond	3	.	0.20
Indian Prairie Canal	7	.	0.20
Kings Bar	10	.	.
Kissimmee River	5	.	0.20
Taylor	11	.	0.20

2009 Bloom Occurrence

January, 2009

The chlorophyll *a* concentrations (corrected for phaeophytin) indicate that algal blooms (>40 ppb) were not present at any of the sampling sites and microcystin levels were all at or below the analytical minimum level of detection (0.2 ug/L). Observation Island was not sampled.

Station (see map)	Chlorophyll <i>a</i> (ppb)	Bloom Condition	Microcystin (ug/L)
Pahokee	11	.	0.20
Clewiston	8	.	0.20
Observation Island	.	.	.
L005	8	.	.
Harney Pond	11	.	0.20
Indian Prairie Canal	6	.	0.20
Kings Bar	3	.	.
Kissimmee River	2	.	0.20
Taylor	8	.	0.20

February, 2009

The chlorophyll *a* concentrations (corrected for phaeophytin) indicate that algal blooms (>40 ppb) were not present at any of the sampling sites and microcystin levels were all at or below the analytical minimum level of detection (0.2 ug/L).

Station (see map)	Chlorophyll <i>a</i> (ppb)	Bloom Condition	Microcystin (ug/L)
Pahokee	2	.	0.20
Clewiston	8	.	0.20

Observation Island	37	.	.
L005	15	.	.
Harney Pond	14	.	0.20
Indian Prairie Canal	15	.	0.20
Kings Bar	8	.	.
Kissimmee River	5	.	0.20
Taylor	8	.	0.20

March, 2009

The chlorophyll *a* concentrations (corrected for phaeophytin) indicate that algal blooms (>40 ppb) were not present at any of the sampling sites and microcystin levels were all at or below the analytical minimum level of detection (0.2 ug/L).

Station (see map)	Chlorophyll <i>a</i> (ppb)	Bloom Condition	Microcystin (ug/L)
Pahokee	5	.	0.20
Clewiston	6	.	0.20
Observation Island	10	.	.
L005	18	.	.
Harney Pond	5	.	0.20
Indian Prairie Canal	15	.	0.20
Kings Bar	25	.	.
Kissimmee River	19	.	0.20
Taylor	34	.	0.20

April, 2009

The chlorophyll *a* concentrations (corrected for phaeophytin) indicate that algal blooms (>40 ppb) were not present at any of the sampling sites and microcystin levels were all at or below the analytical minimum level of detection (0.2 ug/L). Observation Island was not sampled.

Station (see map)	Chlorophyll <i>a</i> (ppb)	Bloom Condition	Microcystin (ug/L)
Pahokee	10	.	0.20
Clewiston	12	.	0.20
Observation Island	.	.	.
L005	17	.	.

Harney Pond	8	.	0.20
Indian Prairie Canal	20	.	0.20
Kings Bar	4	.	.
Kissimmee River	19	.	0.20
Taylor	3	.	0.20

May, 2009

The chlorophyll *a* concentrations (corrected for phaeophytin) indicate that a severe algal bloom (>60 ppb) was present at King's Bar and microcystin levels were all at or below the analytical minimum level of detection (0.2 ug/L).

Station (see map)	Chlorophyll <i>a</i> (ppb)	Bloom Condition	Microcystin (ug/L)
Pahokee	6	.	0.20
Clewiston	8	.	0.20
Observation Island	9	.	.
L005	6	.	.
Harney Pond	15	.	0.20
Indian Prairie Canal	17	.	0.20
Kings Bar	60	Severe	.
Kissimmee River	24	.	0.20
Taylor	15	.	0.20

June, 2009

The chlorophyll *a* concentrations (corrected for phaeophytin) indicate that a severe algal bloom (>60 ppb) was present at Taylor Creek and microcystin levels were all at or below the analytical minimum level of detection (0.2 ug/L). Observation Island was not sampled.

Station (see map)	Chlorophyll <i>a</i> (ppb)	Bloom Condition	Microcystin (ug/L)
Pahokee	8	.	0.20
Clewiston	3	.	0.20
Observation Island	.	.	.
L005	31	.	.
Harney Pond	17	.	0.20
Indian Prairie Canal	32	.	0.20
Kings Bar	12	.	.

Kissimmee River	19	.	0.20
Taylor	78	Severe	0.20

July, 2009

The chlorophyll *a* concentrations (corrected for phaeophytin) indicate that a severe algal bloom (>60 ppb) was present at Taylor Creek and microcystin levels were all at or below the analytical minimum level of detection (0.2 ug/L).

Station (see map)	Chlorophyll <i>a</i> (ppb)	Bloom Condition	Microcystin (ug/L)
Pahokee	34	.	0.20
Clewiston	5	.	0.20
Observation Island	6	.	.
L005	21	.	.
Harney Pond	11	.	0.20
Indian Prairie Canal	7	.	0.20
Kings Bar	27	.	.
Kissimmee River	15	.	0.20
Taylor	60	Severe	0.20

August, 2009

The chlorophyll *a* concentrations (corrected for phaeophytin) indicate that a moderate algal bloom (>40 ppb) was present at Pahokee and microcystin levels were at or below the analytical minimum level of detection (0.2 ug/L) at all sites except Pahokee and Kissimmee River. A microcystin level of <1.0 ug/L is considered no hazard to humans.

Station (see map)	Chlorophyll <i>a</i> (ppb)	Bloom Condition	Microcystin (ug/L)
Pahokee	41	Moderate	0.90
Clewiston	9	.	0.20
Observation Island	15	.	.
L005	20	.	.
Harney Pond	3	.	0.20
Indian Prairie Canal	28	.	0.20
Kings Bar	22	.	.
Kissimmee River	22	.	0.50
Taylor	37	.	0.20

September, 2009

The chlorophyll *a* concentrations (corrected for phaeophytin) indicate that a moderate algal bloom (>40 ppb) was present at Pahokee and Observation Island and microcystin levels were all at or below the analytical minimum level of detection (0.2 ug/L).

Station (see map)	Chlorophyll <i>a</i> (ppb)	Bloom Condition	Microcystin (ug/L)
Pahokee	48	Moderate	0.20
Clewiston	19	.	0.20
Observation Island	45	Moderate	.
L005	30	.	.
Harney Pond	8	.	0.20
Indian Prairie Canal	31	.	0.20
Kings Bar	18	.	.
Kissimmee River	15	.	0.20
Taylor	22	.	0.20

October, 2009

The chlorophyll *a* concentrations (corrected for phaeophytin) indicate that a moderate algal bloom (>40 ppb) was present at Observation Island, L005 and Indian Prairie Canal and microcystin levels were all at or below the analytical minimum level of detection (0.2 ug/L).

Station (see map)	Chlorophyll <i>a</i> (ppb)	Bloom Condition	Microcystin (ug/L)
Pahokee	21	.	0.20
Clewiston	12	.	0.20
Observation Island	43	Moderate	.
L005	46	Moderate	.
Harney Pond	19	.	0.20
Indian Prairie Canal	57	Moderate	0.20
Kings Bar	13	.	.
Kissimmee River	7	.	0.20
Taylor	18	.	0.20

November, 2009

The chlorophyll *a* concentrations (corrected for phaeophytin) indicate that a moderate algal bloom (>40 ppb) was present at Clewiston and L005 and microcystin levels were at or below the analytical minimum level of detection (0.2 ug/L) at all sites except Harney Pond. A microcystin level of <1.0 ug/L is considered no hazard to humans.

Station (see map)	Chlorophyll <i>a</i> (ppb)	Bloom Condition	Microcystin (ug/L)
Pahokee	7	.	0.20
Clewiston	48	Moderate	0.20
Observation Island	37	.	.
L005	40	Moderate	.
Harney Pond	13	.	0.30
Indian Prairie Canal	16	.	0.20
Kings Bar	9	.	.
Kissimmee River	17	.	0.20
Taylor	12	.	0.20

December, 2009

The chlorophyll *a* concentrations (corrected for phaeophytin) indicate that a moderate algal bloom (>40 ppb) was present at Kings Bar and Taylor Creek and a severe bloom (>60 ppb) was present at Clewiston and Indian Prairie Canal. Microcystin levels were at or below the analytical minimum level of detection (0.2 ug/L) at all sites except Clewiston. A microcystin level of <1.0 ug/L is considered no hazard to humans.

Station (see map)	Chlorophyll <i>a</i> (ppb)	Bloom Condition	Microcystin (ug/L)
Pahokee	3	.	0.20
Clewiston	64	Severe	0.30
Observation Island	30	.	.
L005	31	.	.
Harney Pond	11	.	0.20
Indian Prairie Canal	121	Severe	0.20
Kings Bar	45	Moderate	.
Kissimmee River	20	.	0.20
Taylor	48	Moderate	0.20

2008 Bloom Occurrence

January, 2008

The chlorophyll *a* concentrations (corrected for phaeophytin) indicate that algal blooms (>40 ppb) were not present at any of the sampling sites and microcystin levels were all at or below the analytical minimum level of detection (0.2 ug/L). Observation Island, Harney Pond, and Kings Bar were not sampled due to low lake levels.

Station (see map)	Chlorophyll <i>a</i> (ppb)	Bloom Condition	Microcystin (ug/L)
Pahokee	2	.	0.20
Clewiston	6	.	0.20
Observation Island	.	.	.
L005	10	.	.
Harney Pond	.	.	.
Indian Prairie Canal	9	.	0.20
Kings Bar	.	.	.
Kissimmee River	8	.	0.20
Taylor	8	.	0.20

February, 2008

The chlorophyll *a* concentrations (corrected for phaeophytin) indicate that algal blooms (>40 ppb) were not present at any of the sampling sites and microcystin levels were at or below the analytical minimum level of detection (0.2 ug/L) at all sites except Taylor Creek. A microcystin level of <1.0 ug/L is considered no hazard to humans. Observation Island, Harney Pond, and Kings Bar were not sampled due to low lake levels.

Station (see map)	Chlorophyll <i>a</i> (ppb)	Bloom Condition	Microcystin (ug/L)
Pahokee	5	.	0.20
Clewiston	22	.	0.20
Observation Island	.	.	.
L005	6	.	.
Harney Pond	.	.	.
Indian Prairie Canal	9	.	0.20

Kings Bar	.	.	.
Kissimmee River	11	.	0.20
Taylor	9	.	0.30

March, 2008

The chlorophyll *a* concentrations (corrected for phaeophytin) indicate that algal blooms (>40 ppb) were not present at any of the sampling sites and microcystin levels were at or below the analytical minimum level of detection (0.2 ug/L) at all sites except Kissimmee River. A microcystin level of <1.0 ug/L is considered no hazard to humans. Observation Island, Harney Pond, and Kings Bar were not sampled due to low lake levels.

Station (see map)	Chlorophyll <i>a</i> (ppb)	Bloom Condition	Microcystin (ug/L)
Pahokee	11	.	0.20
Clewiston	25	.	0.20
Observation Island	.	.	.
L005	35	.	.
Harney Pond	.	.	.
Indian Prairie Canal	35	.	0.20
Kings Bar	.	.	.
Kissimmee River	15	.	0.30
Taylor	15	.	0.20

April, 2008

The chlorophyll *a* concentrations (corrected for phaeophytin) indicate that algal blooms (>40 ppb) were not present at any of the sampling sites and microcystin levels were all at or below the analytical minimum level of detection (0.2 ug/L). Observation Island, Harney Pond, and Kings Bar were not sampled due to low lake levels.

Station (see map)	Chlorophyll <i>a</i> (ppb)	Bloom Condition	Microcystin (ug/L)
Pahokee	15	.	0.20
Clewiston	17	.	0.20
Observation Island	.	.	.
L005	17	.	.
Harney Pond	.	.	.
Indian Prairie Canal	6	.	0.20
Kings Bar	.	.	.

Kissimmee River	21	.	0.20
Taylor	9	.	0.20

May, 2008

The chlorophyll *a* concentrations (corrected for phaeophytin) indicate that a moderate algal bloom (>40 ppb) was present at Indian Prairie Canal and microcystin levels were at or below the analytical minimum level of detection (0.2 ug/L) at all sites except Kissimmee River. A microcystin level of <1.0 ug/L is considered no hazard to humans. Observation Island, Harney Pond, and Kings Bar were not sampled due to low lake levels.

Station (see map)	Chlorophyll <i>a</i> (ppb)	Bloom Condition	Microcystin (ug/L)
Pahokee	4	.	0.20
Clewiston	22	.	0.20
Observation Island	.	.	.
L005	19	.	.
Harney Pond	.	.	.
Indian Prairie Canal	52	Moderate	0.20
Kings Bar	.	.	.
Kissimmee River	22	.	0.30
Taylor	32	.	0.20

June, 2008

The chlorophyll *a* concentrations (corrected for phaeophytin) indicate that algal blooms (>40 ppb) were not present at any of the sampling sites and microcystin levels were all at or below the analytical minimum level of detection (0.2 ug/L). Observation Island, Harney Pond, and Kings Bar were not sampled due to low lake levels.

Station (see map)	Chlorophyll <i>a</i> (ppb)	Bloom Condition	Microcystin (ug/L)
Pahokee	3	.	0.20
Clewiston	7	.	0.20
Observation Island	.	.	.
L005	8	.	0.20
Harney Pond	.	.	.
Indian Prairie Canal	15	.	0.20
Kings Bar	.	.	.
Kissimmee River	21	.	0.20

Taylor	22	.	0.20
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July, 2008

The chlorophyll *a* concentrations (corrected for phaeophytin) indicate that a moderate algal bloom (>40 ppb) was present at Indian Prairie Canal and Taylor Creek and microcystin levels were at or below the analytical minimum level of detection (0.2 ug/L) at all sites except Indian Prairie Canal. A microcystin level of <1.0 ug/L is considered no hazard to humans. Observation Island, Harney Pond, and Kings Bar were not sampled due to low lake levels.

Station (see map)	Chlorophyll <i>a</i> (ppb)	Bloom Condition	Microcystin (ug/L)
Pahokee	12	.	0.20
Clewiston	5	.	0.20
Observation Island	.	.	.
L005	10	.	.
Harney Pond	.	.	.
Indian Prairie Canal	52	Moderate	0.30
Kings Bar	.	.	.
Kissimmee River	11	.	0.20
Taylor	52	Moderate	0.20

August, 2008

The chlorophyll *a* concentrations (corrected for phaeophytin) indicate that a moderate algal bloom (>40 ppb) was present at Indian Prairie Canal and microcystin levels were at or below the analytical minimum level of detection (0.2 ug/L) at all sites except Indian Prairie Canal. A microcystin level of <1.0 ug/L is considered no hazard to humans. Observation Island, Harney Pond, and Kings Bar were not sampled due to low lake levels.

Station (see map)	Chlorophyll <i>a</i> (ppb)	Bloom Condition	Microcystin (ug/L)
Pahokee	15	.	0.20
Clewiston	19	.	0.20
Observation Island	.	.	.
L005	36	.	.
Harney Pond	.	.	.
Indian Prairie Canal	41	Moderate	0.30
Kings Bar	.	.	.

Kissimmee River	26	.	0.20
Taylor	8	.	0.20

September, 2008

The chlorophyll *a* concentrations (corrected for phaeophytin) indicate that algal blooms (>40 ppb) were not present at any of the sampling sites and microcystin levels were at or below the analytical minimum level of detection (0.2 ug/L) at all sites except Harney Pond. A microcystin level of <1.0 ug/L is considered no hazard to humans.

Station (see map)	Chlorophyll <i>a</i> (ppb)	Bloom Condition	Microcystin (ug/L)
Pahokee	4	.	0.20
Clewiston	8	.	0.20
Observation Island	31	.	.
L005	28	.	.
Harney Pond	26	.	0.30
Indian Prairie Canal	34	.	0.20
Kings Bar	11	.	.
Kissimmee River	21	.	0.20
Taylor	24	.	0.20

October, 2008

The chlorophyll *a* concentrations (corrected for phaeophytin) indicate that algal blooms (>40 ppb) were not present at any of the sampling sites and microcystin levels were all at or below the analytical minimum level of detection (0.2 ug/L). Observation Island and L005 were not sampled.

Station (see map)	Chlorophyll <i>a</i> (ppb)	Bloom Condition	Microcystin (ug/L)
Pahokee	15	.	0.20
Clewiston	10	.	0.20
Observation Island	.	.	.
L005	.	.	.
Harney Pond	11	.	0.20
Indian Prairie Canal	9	.	0.20
Kings Bar	8	.	.
Kissimmee River	3	.	0.20
Taylor	25	.	0.20

November, 2008

The chlorophyll *a* concentrations (corrected for phaeophytin) indicate that algal blooms (>40 ppb) were not present at any of the sampling sites and microcystin levels were all at or below the analytical minimum level of detection (0.2 ug/L).

Station (see map)	Chlorophyll <i>a</i> (ppb)	Bloom Condition	Microcystin (ug/L)
Pahokee	8	.	0.20
Clewiston	8	.	0.20
Observation Island	19	.	.
L005	9	.	.
Harney Pond	5	.	0.20
Indian Prairie Canal	6	.	0.20
Kings Bar	6	.	.
Kissimmee River	6	.	0.20
Taylor	4	.	0.20

December, 2008

The chlorophyll *a* concentrations (corrected for phaeophytin) indicate that a moderate algal bloom (>40 ppb) was present at Observation Island. Microcystin samples were not collected.

Station (see map)	Chlorophyll <i>a</i> (ppb)	Bloom Condition	Microcystin (ug/L)
Pahokee	4	.	.
Clewiston	30	.	.
Observation Island	47	Moderate	.
L005	15	.	.
Harney Pond	17	.	.
Indian Prairie Canal	6	.	.
Kings Bar	3	.	.
Kissimmee River	9	.	.
Taylor	8	.	.

2007 Bloom Occurrence

January, 2007

The chlorophyll *a* concentrations (corrected for phaeophytin) indicate that algal blooms (>40 ppb) were not present at any of the sampling sites and microcystin levels were all at or below the analytical minimum level of detection (0.2 ug/L).

Station (see map)	Chlorophyll <i>a</i> (ppb)	Bloom Condition	Microcystin (ug/L)
Pahokee	12	.	0.2
Clewiston	15	.	0.2
Observation Island	.	.	.
L005	28	.	.
Harney Pond	17	.	0.2
Indian Prairie Canal	18	.	0.2
Kings Bar	9	.	.
Kissimmee River	20	.	0.2
Taylor	8	.	0.2

February, 2007

The chlorophyll *a* concentrations (corrected for phaeophytin) indicate that algal blooms (>40 ppb) were not present at any of the sampling sites and microcystin levels were all at or below the analytical minimum level of detection (0.2 ug/L). Low lake levels prevented sampling at three of the shallower nearshore sites - Observation Island, Harney Pond, and Kings Bar.

Station (see map)	Chlorophyll <i>a</i> (ppb)	Bloom Condition	Microcystin (ug/L)
Pahokee	6	.	0.20
Clewiston	9	.	0.20
Observation Island	.	.	.
L005	20	.	.
Harney Pond	.	.	.
Indian Prairie Canal	14	.	0.20
Kings Bar	.	.	.
Kissimmee River	4	.	0.20
Taylor	6	.	0.20

March, 2007

The chlorophyll *a* concentrations (corrected for phaeophytin) indicate that algal blooms (>40 ppb) were not present at any of the sampling sites and microcystin levels were all at or

below the analytical minimum level of detection (0.2 ug/L). Observation Island, Harney Pond, and Kings Bar were not sampled due to low lake levels.

Station (see map)	Chlorophyll <i>a</i> (ppb)	Bloom Condition	Microcystin (ug/L)
Pahokee	7	.	.
Clewiston	22	.	0.20
Observation Island	.	.	.
L005	24	.	.
Harney Pond	.	.	.
Indian Prairie Canal	18	.	0.20
Kings Bar	.	.	.
Kissimmee River	9	.	0.20
Taylor	8	.	0.20

April, 2007

The chlorophyll *a* concentrations (corrected for phaeophytin) indicate that algal blooms (>40 ppb) were not present at any of the sampling sites and microcystin levels were all at or below the analytical minimum level of detection (0.2 ug/L). Low lake levels prevented sampling at three of the shallower nearshore sites - Observation Island, Harney Pond, and Kings Bar.

Station (see map)	Chlorophyll <i>a</i> (ppb)	Bloom Condition	Microcystin (ug/L)
Pahokee	5	.	0.20
Clewiston	1	.	0.20
Observation Island	.	.	.
L005	10	.	.
Harney Pond	.	.	.
Indian Prairie Canal	14	.	0.20
Kings Bar	.	.	.
Kissimmee River	14	.	0.20
Taylor	10	.	0.20

May, 2007

The chlorophyll *a* concentrations (corrected for phaeophytin) indicate that a moderate algal bloom (>40 ppb) was present at Kissimmee River and microcystin levels were all at or below the analytical minimum level of detection (0.2 ug/L). Observation Island, Harney

Pond, and Kings Bar were not sampled due to low lake levels.

Station (see map)	Chlorophyll <i>a</i> (ppb)	Bloom Condition	Microcystin (ug/L)
Pahokee	12	.	0.20
Clewiston	12	.	0.20
Observation Island	.	.	.
L005	22	.	.
Harney Pond	.	.	.
Indian Prairie Canal	30	.	0.20
Kings Bar	.	.	.
Kissimmee River	50	Moderate	0.20
Taylor	11	.	0.20

June, 2007

The chlorophyll *a* concentrations (corrected for phaeophytin) indicate that algal blooms (>40 ppb) were not present at any of the sampling sites and microcystin levels were all at or below the analytical minimum level of detection (0.2 ug/L). Observation Island, Harney Pond, and Kings Bar were not sampled due to low lake levels.

Station (see map)	Chlorophyll <i>a</i> (ppb)	Bloom Condition	Microcystin (ug/L)
Pahokee	2	.	0.20
Clewiston	4	.	0.20
Observation Island	.	.	.
L005	26	.	.
Harney Pond	.	.	.
Indian Prairie Canal	5	.	0.20
Kings Bar	.	.	.
Kissimmee River	22	.	0.20
Taylor	12	.	0.20

July, 2007

The chlorophyll *a* concentrations (corrected for phaeophytin) indicate that algal blooms (>40 ppb) were not present at any of the sampling sites and microcystin levels were all at or below the analytical minimum level of detection (0.2 ug/L). Observation Island, Harney Pond, and Kings Bar were not sampled due to low lake levels.

Station (see map)	Chlorophyll <i>a</i> (ppb)	Bloom Condition	Microcystin (ug/L)
Pahokee	4	.	0.20
Clewiston	8	.	0.20
Observation Island	.	.	.
L005	2	.	.
Harney Pond	.	.	.
Indian Prairie Canal	4	.	0.20
Kings Bar	.	.	.
Kissimmee River	10	.	0.20
Taylor	24	.	0.20

August, 2007

The chlorophyll *a* concentrations (corrected for phaeophytin) indicate that a severe algal bloom (>40 ppb) was present at L005, a structure on the west side of the lake, and microcystin levels were all at or below the analytical minimum level of detection (0.2 ug/L). Observation Island, Harney Pond, and Kings Bar were not sampled due to low lake levels.

Station (see map)	Chlorophyll <i>a</i> (ppb)	Bloom Condition	Microcystin (ug/L)
Pahokee	6	.	0.20
Clewiston	6	.	0.20
Observation Island	.	.	.
L005	67	Severe	.
Harney Pond	.	.	.
Indian Prairie Canal	30	.	0.20
Kings Bar	.	.	.
Kissimmee River	10	.	0.20
Taylor	27	.	0.20

September, 2007

The chlorophyll *a* concentrations (corrected for phaeophytin) indicate that algal blooms (>40 ppb) were not present at any of the sampling sites and microcystin levels were all at or below the analytical minimum level of detection (0.2 ug/L). Observation Island, Harney Pond, Kings Bar and Taylor Creek were not sampled due to low lake levels.

Station (see map)	Chlorophyll <i>a</i> (ppb)	Bloom Condition	Microcystin (ug/L)
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Pahokee	5	.	0.20
Clewiston	39	.	0.20
Observation Island	.	.	.
L005	12	.	.
Harney Pond	.	.	.
Indian Prairie Canal	21	.	0.20
Kings Bar	.	.	.
Kissimmee River	5	.	0.20
Taylor	.	.	0.20

October, 2007

The chlorophyll *a* concentrations (corrected for phaeophytin) indicate that algal blooms (>40 ppb) were not present at any of the sampling sites and microcystin levels were all at or below the analytical minimum level of detection (0.2 ug/L). Observation Island, Harney Pond, and Kings Bar were not sampled due to low lake levels.

Station (see map)	Chlorophyll <i>a</i> (ppb)	Bloom Condition	Microcystin (ug/L)
Pahokee	4	.	0.20
Clewiston	15	.	0.20
Observation Island	.	.	.
L005	16	.	.
Harney Pond	.	.	.
Indian Prairie Canal	12	.	0.20
Kings Bar	.	.	.
Kissimmee River	8	.	0.20
Taylor	10	.	0.20

November, 2007

The chlorophyll *a* concentrations (corrected for phaeophytin) indicate that algal blooms (>40 ppb) were not present at any of the sampling sites and microcystin levels were all at or below the analytical minimum level of detection (0.2 ug/L). Observation Island, Harney Pond, and Kings Bar were not sampled due to low lake levels.

Station (see map)	Chlorophyll <i>a</i> (ppb)	Bloom Condition	Microcystin (ug/L)
Pahokee	6	.	0.20

Clewiston	11	.	0.20
Observation Island	.	.	.
L005	17	.	.
Harney Pond	.	.	.
Indian Prairie Canal	17	.	0.20
Kings Bar	.	.	.
Kissimmee River	14	.	0.20
Taylor	17	.	0.20

December, 2007

The chlorophyll *a* concentrations (corrected for phaeophytin) indicate that algal blooms (>40 ppb) were not present at any of the sampling sites and microcystin levels were all at or below the analytical minimum level of detection (0.2 ug/L). Observation Island, Harney Pond, and Kings Bar were not sampled due to low lake levels.

Station (see map)	Chlorophyll <i>a</i> (ppb)	Bloom Condition	Microcystin (ug/L)
Pahokee	2	.	0.20
Clewiston	9	.	0.20
Observation Island	.	.	.
L005	10	.	.
Harney Pond	.	.	.
Indian Prairie Canal	10	.	0.20
Kings Bar	.	.	.
Kissimmee River	.	.	0.20
Taylor	6	.	0.20

2006 Bloom Occurrence

January, 2006

The chlorophyll *a* concentrations (corrected for phaeophytin) indicate that algal blooms (>40 ppb) were not present at any of the sampling sites and microcystin levels were all at or below the analytical minimum level of detection (0.2 ug/L).

Station (see map)	Chlorophyll <i>a</i> (ppb)	Bloom Condition	Microcystin (ug/L)
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Pahokee	11	.	0.2
Clewiston	16	.	0.2
Observation Island	14	.	.
L005	13	.	.
Harney Pond	9	.	0.2
Indian Prairie Canal	22	.	0.2
Kings Bar	18	.	.
Kissimmee River	9	.	0.2
Taylor	8	.	0.2

February, 2006

The chlorophyll *a* concentrations (corrected for phaeophytin) indicate that algal blooms (>40 ppb) were not present at any of the sampling sites and microcystin levels were all at or below the analytical minimum level of detection (0.2 ug/L).

Station (see map)	Chlorophyll <i>a</i> (ppb)	Bloom Condition	Microcystin (ug/L)
Pahokee	38	.	0.2
Clewiston	22	.	0.2
Observation Island	22	.	.
L005	35	.	.
Harney Pond	18	.	0.2
Indian Prairie Canal	15	.	0.2
Kings Bar	15	.	.
Kissimmee River	14	.	0.2
Taylor	22	.	0.2

March, 2006

The chlorophyll *a* concentrations (corrected for phaeophytin) indicate that algal blooms (>40 ppb) were not present at any of the sampling sites and microcystin levels were all at or below the analytical minimum level of detection (0.2 ug/L).

Station (see map)	Chlorophyll <i>a</i> (ppb)	Bloom Condition	Microcystin (ug/L)
Pahokee	6	.	0.2
Clewiston	3	.	0.2
Observation Island	11	.	.

L005	7	.	.
Harney Pond	21	.	0.2
Indian Prairie Canal	10	.	0.2
Kings Bar	6	.	.
Kissimmee River	6	.	0.2
Taylor	7	.	0.2

April, 2006

The chlorophyll *a* concentrations (corrected for phaeophytin) indicate that algal blooms (>40 ppb) were not present at any of the sampling sites and microcystin levels were all at or below the analytical minimum level of detection (0.2 ug/L).

Station (see map)	Chlorophyll <i>a</i> (ppb)	Bloom Condition	Microcystin (ug/L)
Pahokee	21	.	0.2
Clewiston	7	.	0.2
Observation Island	32	.	.
L005	4	.	.
Harney Pond	38	.	0.2
Indian Prairie Canal	23	.	0.2
Kings Bar	18	.	.
Kissimmee River	12	.	0.2
Taylor	13	.	0.2

May, 2006

The chlorophyll *a* concentrations (corrected for phaeophytin) indicate that algal blooms (>40 ppb) were not present at any of the sampling sites and microcystin levels were all at or below the analytical minimum level of detection (0.2 ug/L).

Station (see map)	Chlorophyll <i>a</i> (ppb)	Bloom Condition	Microcystin (ug/L)
Pahokee	5	.	0.2
Clewiston	7	.	0.2
Observation Island	6	.	.
L005	10	.	.
Harney Pond	19	.	0.2
Indian Prairie Canal	8	.	0.2

Kings Bar	9	.	.
Kissimmee River	10	.	0.2
Taylor	12	.	0.2

June, 2006

The chlorophyll *a* concentrations (corrected for phaeophytin) indicate that algal blooms (>40 ppb) were not present at any of the sampling sites and microcystin levels were all at or below the analytical minimum level of detection (0.2 ug/L).

Station (see map)	Chlorophyll <i>a</i> (ppb)	Bloom Condition	Microcystin (ug/L)
Pahokee	2	.	0.2
Clewiston	3	.	0.2
Observation Island	6	.	.
L005	8	.	.
Harney Pond	9	.	0.2
Indian Prairie Canal	15	.	0.2
Kings Bar	5	.	.
Kissimmee River	11	.	0.2
Taylor	4	.	0.2

July, 2006

The chlorophyll *a* concentrations (corrected for phaeophytin) indicate that algal blooms (>40 ppb) were not present at any of the sampling sites and microcystin levels were all at or below the analytical minimum level of detection (0.2 ug/L). Observation Island and Taylor Creek were not sampled.

Station (see map)	Chlorophyll <i>a</i> (ppb)	Bloom Condition	Microcystin (ug/L)
Pahokee	18	.	0.2
Clewiston	11	.	0.2
Observation Island	.	.	.
L005	4	.	.
Harney Pond	11	.	0.2
Indian Prairie Canal	8	.	0.2
Kings Bar	4	.	.
Kissimmee River	8	.	0.2
Taylor	.	.	0.2

August, 2006

The chlorophyll *a* concentrations (corrected for phaeophytin) indicate that algal blooms (>40 ppb) were not present at any of the sampling sites and microcystin levels were at or below the analytical minimum level of detection (0.2 ug/L) at all sites except Harney Pond. A microcystin level of <1.0 ug/L is considered no hazard to humans. Observation Island, Kings Bar and Kissimmee River were not sampled due to low lake levels.

Station (see map)	Chlorophyll <i>a</i> (ppb)	Bloom Condition	Microcystin (ug/L)
Pahokee	9	.	0.2
Clewiston	6	.	0.2
Observation Island	.	.	.
L005	7	.	.
Harney Pond	27	.	0.3
Indian Prairie Canal	20	.	0.2
Kings Bar	.	.	.
Kissimmee River	.	.	.
Taylor	8	.	.

September, 2006

The chlorophyll *a* concentrations (corrected for phaeophytin) indicate that algal blooms (>40 ppb) were not present at any of the sampling sites and microcystin levels were all at or below the analytical minimum level of detection (0.2 ug/L).

Station (see map)	Chlorophyll <i>a</i> (ppb)	Bloom Condition	Microcystin (ug/L)
Pahokee	17	.	0.2
Clewiston	4	.	0.2
Observation Island	2	.	.
L005	4	.	.
Harney Pond	10	.	0.2
Indian Prairie Canal	.	.	0.2
Kings Bar	18	.	.
Kissimmee River	14	.	0.2
Taylor	14	.	0.2

October, 2006

The chlorophyll *a* concentrations (corrected for phaeophytin) indicate that algal blooms (>40 ppb) were not present at any of the sampling sites and microcystin levels were all at or below the analytical minimum level of detection (0.2 ug/L).

Station (see map)	Chlorophyll <i>a</i> (ppb)	Bloom Condition	Microcystin (ug/L)
Pahokee	10	.	0.2
Clewiston	3	.	0.2
Observation Island	4	.	.
L005	18	.	.
Harney Pond	7	.	0.2
Indian Prairie Canal	10	.	0.2
Kings Bar	13	.	.
Kissimmee River	9	.	0.2
Taylor	12	.	0.2

November, 2006

The chlorophyll *a* concentrations (corrected for phaeophytin) indicate that algal blooms (>40 ppb) were not present at any of the sampling sites and microcystin levels were all at or below the analytical minimum level of detection (0.2 ug/L).

Station (see map)	Chlorophyll <i>a</i> (ppb)	Bloom Condition	Microcystin (ug/L)
Pahokee	8	.	0.2
Clewiston	8	.	0.2
Observation Island	11	.	.
L005	11	.	.
Harney Pond	15	.	0.2
Indian Prairie Canal	19	.	0.2
Kings Bar	10	.	.
Kissimmee River	11	.	0.2
Taylor	14	.	0.2

December, 2006

The chlorophyll *a* concentrations (corrected for phaeophytin) indicate that algal blooms (>40 ppb) were not present at any of the sampling sites and microcystin levels were all at or below the analytical minimum level of detection (0.2 ug/L).

Station (see map)	Chlorophyll <i>a</i> (ppb)	Bloom Condition	Microcystin (ug/L)
Pahokee	10	.	0.2
Clewiston	13	.	0.2
Observation Island	13	.	.
L005	5	.	.
Harney Pond	17	.	0.2
Indian Prairie Canal	5	.	0.2
Kings Bar	5	.	.
Kissimmee River	14	.	0.2
Taylor	14	.	0.2

2005 Bloom Occurrence

January, 2005

No algal blooms were noted during the January 2005 quantitative bloom survey nor have any blooms been reported recently by citizens. Lake temperatures in January were approximately 68-70 degrees Fahrenheit and lake waters were turbid; conditions that do not usually favor bloom formation. However, microcystin levels at the mouth of the Kissimmee River were quite high.

Station (see map)	Chlorophyll <i>a</i> (ppb)	Bloom Condition	Microcystin (ug/L)
Pahokee	.	.	2.9
Clewiston	10	.	2
Observation Island	17	.	.
L005	9	.	.
Harney Pond	17	.	0.18
Indian Prairie Canal	11	.	2.6
Kings Bar	13	.	.
Kissimmee River	9	.	12.65
Taylor	13	.	.

February 2005 to July 2005

No blooms were detected in February 2005, however beginning in March 2005; our monitoring program began to detect moderate surface blooms, especially along the western

shore of the lake and in Fisheating Bay. This trend has continued through July 2005 with many additional blooms being reported by District staff, staff of other state government agencies, and the boating public. In addition to Fish Eating Bay and the western shore, blooms have been noted in the Taylor Creek area, in the vicinities of Clewiston and Ritta Island, in Pelican Bay, and in various locations along the rim canal. These spring and summer blooms are a normal phenomenon in many lakes throughout the world and are a direct response to high nutrient levels, warm temperatures, and reduced sediment loads that occur with the end of the winter windy season. While these blooms have the potential to produce toxins our monitoring during this period has resulted in only a single toxin sample with a concentration of possible concern from the perspective of drinking water standards.

February, 2005

The chlorophyll *a* concentrations (corrected for phaeophytin) indicate that just two sites along the western shore (L005 and Harney Pond) had an algal bloom (>40 ppb) but microcystin levels were relatively low.

Station (see map)	Chlorophyll <i>a</i> (ppb)	Bloom Condition	Microcystin (ug/L)
Pahokee	35	.	1.31
Clewiston	8	.	1.99
Observation Island	17	.	.
L005	43	Moderate	.
Harney Pond	49	Moderate	8.5
Indian Prairie Canal	22	.	5.2
Kings Bar	19	.	.
Kissimmee River	8	.	3.64
Taylor	16	.	.

March, 2005

The chlorophyll *a* concentrations (corrected for phaeophytin) indicate that just one site (Harney Pond, which is located in Fisheating Bay) had an algal bloom (>40 ppb) and microcystin levels were low.

Station (see map)	Chlorophyll <i>a</i> (ppb)	Bloom Condition	Microcystin (ug/L)
Pahokee	8	.	1.55
Clewiston	8	.	0.9
Observation Island	17	.	.

L005	13	.	.
Harney Pond	56	Moderate	1.1
Indian Prairie Canal	21	.	1.2
Kings Bar	18	.	.
Kissimmee River	10	.	0.42
Taylor	22	.	.

April, 2005

The chlorophyll *a* concentrations (corrected for phaeophytin) indicate that, similar to last month, Harney Pond was the only site that had an algal bloom (>40 ppb) and microcystin levels were low.

Station (see map)	Chlorophyll <i>a</i> (ppb)	Bloom Condition	Microcystin (ug/L)
Pahokee	22	.	0.8
Clewiston	14	.	0.77
Observation Island	26	.	.
L005	12	.	.
Harney Pond	54	Moderate	0.34
Indian Prairie Canal	14	.	2.84
Kings Bar	17	.	.
Kissimmee River	13	.	0.75
Taylor	17	.	.

May, 2005

The chlorophyll *a* concentrations (corrected for phaeophytin) indicate that algal blooms (>40 ppb) were not present at any of the sampling sites and microcystin levels were low.

Station (see map)	Chlorophyll <i>a</i> (ppb)	Bloom Condition	Microcystin (ug/L)
Pahokee	7	.	2.45
Clewiston	7	.	1.73
Observation Island	17	.	.
L005	19	.	.
Harney Pond	34	.	0.52
Indian Prairie Canal	18	.	0.09
Kings Bar	21	.	.

Kissimmee River	26	.	0.36
Taylor	26	.	0.18

June, 2005

The chlorophyll *a* concentrations (corrected for phaeophytin) indicate that algal blooms (>40 ppb) were not present at any of the sampling sites but microcystin levels were high at Pahokee and Clewiston in the southern part of the lake.

Station (see map)	Chlorophyll <i>a</i> (ppb)	Bloom Condition	Microcystin (ug/L)
Pahokee	9	.	5.68
Clewiston	6	.	12.8
Observation Island	1	.	.
L005	4	.	.
Harney Pond	5	.	0.62
Indian Prairie Canal	6	.	2.5
Kings Bar	6	.	.
Kissimmee River	10	.	2.64
Taylor	16	.	1.04

July, 2005

The chlorophyll *a* concentrations (corrected for phaeophytin) indicate that algal blooms (>40 ppb) were not present at any of the sampling sites and microcystin levels were low.

Station (see map)	Chlorophyll <i>a</i> (ppb)	Bloom Condition	Microcystin (ug/L)
Pahokee	2	.	0.55
Clewiston	2	.	0.87
Observation Island	8	.	.
L005	.	.	.
Harney Pond	9	.	0.72
Indian Prairie Canal	7	.	0.55
Kings Bar	7	.	.
Kissimmee River	5	.	3.31
Taylor	20	.	4.4

August, 2005

The chlorophyll *a* concentrations (corrected for phaeophytin) indicate that four sites along the west and northwest side of the lake had severe blooms. The chlorophyll *a* concentration in Harney Pond was particularly high. Algal blooms are common along the western lake shore in summer, especially when water temperatures are high and wind and rainfall are relatively low. These conditions favor growth of noxious blue-green algae as is evident from the very high levels of microcystin at these sites.

Station (see map)	Chlorophyll <i>a</i> (ppb)	Bloom Condition	Microcystin (ug/L)
Pahokee	2	.	1.53
Clewiston	14	.	16.5
Observation Island	73	Severe	.
L005	8	.	.
Harney Pond	149	Severe	104
Indian Prairie Canal	83	Severe	65.5
Kings Bar	62	Severe	.
Kissimmee River	28	.	14.1
Taylor	32	.	16.7

September, 2005

The chlorophyll *a* concentrations (corrected for phaeophytin) indicate that four sites along the western side of the lake had moderate to severe blooms and, although the microcystin levels were high at Harney Pond and Indian Prairie, the levels decreased from last month.

Station (see map)	Chlorophyll <i>a</i> (ppb)	Bloom Condition	Microcystin (ug/L)
Pahokee	3	.	0.15
Clewiston	11	.	3
Observation Island	62	Severe	.
L005	40	Moderate	.
Harney Pond	75	Severe	22.2
Indian Prairie Canal	68	Severe	37.9
Kings Bar	25	.	.
Kissimmee River	14	.	1.97
Taylor	22	.	3.55

October, 2005

Algal blooms continue to occur throughout the lake and the District waterways. The

chlorophyll *a* concentrations (corrected for phaeophytin) indicate that two sites along the west (Indian Prairie Canal) and north (Kissimmee River) side of the lake had moderate to severe blooms and microcystin levels at these two sites increased greatly from last month.

Station (see map)	Chlorophyll <i>a</i> (ppb)	Bloom Condition	Microcystin (ug/L)
Pahokee	11	.	0.1
Clewiston	4	.	0.1
Observation Island	.	.	.
L005	.	.	.
Harney Pond	22	.	10
Indian Prairie Canal	41	Moderate	55.9
Kings Bar	.	.	.
Kissimmee River	94	Severe	83.5
Taylor	9	.	3.1

November, 2005

The wide-spread algal blooms disappeared as is typical during the windier fall and winter months. The chlorophyll *a* concentrations (corrected for phaeophytin) indicate that algal blooms (>40 ppb) were not present at any of the sampling sites and microcystin levels were low.

Station (see map)	Chlorophyll <i>a</i> (ppb)	Bloom Condition	Microcystin (ug/L)
Pahokee	.	.	.
Clewiston	4	.	0.2
Observation Island	14	.	.
L005	4	.	.
Harney Pond	7	.	0.4
Indian Prairie Canal	10	.	0.3
Kings Bar	5	.	.
Kissimmee River	7	.	0.3
Taylor	3	.	0.1

December, 2005

The chlorophyll *a* concentrations (corrected for phaeophytin) indicate that algal blooms (>40 ppb) were not present at any of the sampling sites and microcystin levels were all at or below the analytical minimum level of detection (0.2 ug/L).

Station (see map)	Chlorophyll <i>a</i> (ppb)	Bloom Condition	Microcystin (ug/L)
Pahokee	5	.	0.2
Clewiston	9	.	0.2
Observation Island	10	.	.
L005	6	.	.
Harney Pond	13	.	0.2
Indian Prairie Canal	6	.	0.2
Kings Bar	9	.	.
Kissimmee River	0	.	0.2
Taylor	3	.	0.2

2004 Bloom Occurrence

January, 2004

The chlorophyll *a* concentrations (corrected for phaeophytin) indicate that algal blooms (>40 ppb) were not present at any of the sampling sites.

Station (see map)	Chlorophyll <i>a</i> (ppb)	Bloom Condition	Microcystin (ug/L)
Pahokee	22	.	.
Clewiston	8	.	.
Observation Island	25	.	.
L005	10	.	.
Harney Pond	22	.	.
Indian Prairie Canal	13	.	.
Kings Bar	4	.	.
Kissimmee River	4	.	.
Taylor	5	.	.

February, 2004

The chlorophyll *a* concentrations (corrected for phaeophytin) indicate that a moderate algal bloom (>40 ppb) was present at Observation Island and L005 and a severe bloom (>60 ppb) was present at Indian Prairie Canal and Taylor Creek.

Station (see map)	Chlorophyll <i>a</i> (ppb)	Bloom Condition	Microcystin (ug/L)
Pahokee	24	.	.
Clewiston	15	.	.
Observation Island	55	Moderate	.
L005	40	Moderate	.
Harney Pond	10	.	.
Indian Prairie Canal	67	Severe	.
Kings Bar	12	.	.
Kissimmee River	15	.	.
Taylor	74	Severe	.

March, 2004

The chlorophyll *a* concentrations (corrected for phaeophytin) indicate that algal blooms (>40 ppb) were not present at any of the sampling sites.

Station (see map)	Chlorophyll <i>a</i> (ppb)	Bloom Condition	Microcystin (ug/L)
Pahokee	7	.	.
Clewiston	7	.	.
Observation Island	.	.	.
L005	29	.	.
Harney Pond	19	.	.
Indian Prairie Canal	23	.	.
Kings Bar	14	.	.
Kissimmee River	15	.	.
Taylor	12	.	.

April, 2004

The chlorophyll *a* concentrations (corrected for phaeophytin) indicate that algal blooms (>40 ppb) were not present at any of the sampling sites.

Station (see map)	Chlorophyll <i>a</i> (ppb)	Bloom Condition	Microcystin (ug/L)
Pahokee	15	.	.
Clewiston	11	.	.
Observation	19	.	.

Island			
L005	29	.	.
Harney Pond	23	.	.
Indian Prairie Canal	18	.	.
Kings Bar	9	.	.
Kissimmee River	23	.	.
Taylor	24	.	.

May, 2004

The chlorophyll *a* concentrations (corrected for phaeophytin) indicate that a moderate algal bloom (>40 ppb) was present at Harney Pond and microcystin levels were above the analytical minimum level of detection (0.2 ug/L) at three of the five sites (Pahokee, Harney Pond and Kissimmee River).

Station (see map)	Chlorophyll <i>a</i> (ppb)	Bloom Condition	Microcystin (ug/L)
Pahokee	7	.	0.30
Clewiston	12	.	0.20
Observation Island	30	.	.
L005	33	.	.
Harney Pond	40	Moderate	0.44
Indian Prairie Canal	30	.	0.20
Kings Bar	26	.	.
Kissimmee River	23	.	0.57
Taylor	18	.	.

June, 2004

The chlorophyll *a* concentrations (corrected for phaeophytin) indicate that a moderate algal bloom (>40 ppb) was present at Taylor Creek and a severe bloom (>60 ppb) was present at Harney Pond, Indian Prairie and Kings Bar. Microcystin levels were above the analytical minimum level of detection (0.2 ug/L) at three of the five sites (Indian Prairie, Kissimmee River and Taylor Creek).

Station (see map)	Chlorophyll <i>a</i> (ppb)	Bloom Condition	Microcystin (ug/L)
Pahokee	25	.	0.20
Clewiston	6	.	0.20
Observation Island	11	.	.

L005	25	.	.
Harney Pond	196	Severe	.
Indian Prairie Canal	102	Severe	0.75
Kings Bar	69	Severe	.
Kissimmee River	25	.	1.00
Taylor	59	Moderate	1.00

July, 2004

The chlorophyll *a* concentrations (corrected for phaeophytin) indicate that a moderate algal bloom (>40 ppb) was present at Harney Pond and microcystin levels were above the analytical minimum level of detection (0.2 ug/L) at three of the five sites (Pahokee, Harney Pond and Kissimmee River).

Station (see map)	Chlorophyll <i>a</i> (ppb)	Bloom Condition	Microcystin (ug/L)
Pahokee	30	.	1.00
Clewiston	8	.	0.20
Observation Island	5	.	.
L005	14	.	.
Harney Pond	44	Moderate	2.00
Indian Prairie Canal	16	.	0.75
Kings Bar	15	.	.
Kissimmee River	13	.	1.00
Taylor	24	.	.

August, 2004

The chlorophyll *a* concentrations (corrected for phaeophytin) indicate that a moderate algal bloom (>40 ppb) was present at Pahokee and microcystin levels were above the analytical minimum level of detection (0.2 ug/L) at all but one site sampled (Harney Pond).

Station (see map)	Chlorophyll <i>a</i> (ppb)	Bloom Condition	Microcystin (ug/L)
Pahokee	45	Moderate	0.25
Clewiston	9	.	0.75
Observation Island	3	.	.
L005	26	.	.
Harney Pond	12	.	0.20
Indian Prairie	28	.	.

Canal			
Kings Bar	.	.	.
Kissimmee River	25	.	0.60
Taylor	25	.	0.27

September, 2004

The chlorophyll *a* concentrations (corrected for phaeophytin) indicate that algal blooms (>40 ppb) were not present at any of the sampling sites and microcystin levels were above the analytical minimum level of detection (0.2 ug/L) at all but one site sampled (Clewiston).

Station (see map)	Chlorophyll <i>a</i> (ppb)	Bloom Condition	Microcystin (ug/L)
Pahokee	39	.	0.52
Clewiston	9	.	0.20
Observation Island	17	.	.
L005	16	.	.
Harney Pond	10	.	1.20
Indian Prairie Canal	10	.	1.90
Kings Bar	28	.	.
Kissimmee River	10	.	3.00
Taylor	21	.	.

October, 2004

The chlorophyll *a* concentrations (corrected for phaeophytin) indicate that algal blooms (>40 ppb) were not present at any of the sampling sites and microcystin levels were all above the analytical minimum level of detection (0.2 ug/L) but very low.

Station (see map)	Chlorophyll <i>a</i> (ppb)	Bloom Condition	Microcystin (ug/L)
Pahokee	4	.	0.97
Clewiston	6	.	0.31
Observation Island	14	.	.
L005	23	.	.
Harney Pond	13	.	0.30
Indian Prairie Canal	15	.	0.46
Kings Bar	10	.	.
Kissimmee River	14	.	0.73
Taylor	11	.	.

November, 2004

The chlorophyll *a* concentrations (corrected for phaeophytin) indicate that algal blooms (>40 ppb) were not present at any of the sampling sites and microcystin levels were all above the analytical minimum level of detection (0.2 ug/L) but very low.

Station (see map)	Chlorophyll <i>a</i> (ppb)	Bloom Condition	Microcystin (ug/L)
Pahokee	4	.	2.92
Clewiston	14	.	2.00
Observation Island	11	.	.
L005	8	.	.
Harney Pond	10	.	5.74
Indian Prairie Canal	9	.	2.10
Kings Bar	9	.	.
Kissimmee River	3	.	0.48
Taylor	6	.	.

December, 2004

The chlorophyll *a* concentrations (corrected for phaeophytin) indicate that algal blooms (>40 ppb) were not present at any of the sampling sites and microcystin levels were all above the analytical minimum level of detection (0.2 ug/L) but very low.

Station (see map)	Chlorophyll <i>a</i> (ppb)	Bloom Condition	Microcystin (ug/L)
Pahokee	5	.	3.40
Clewiston	7	.	2.17
Observation Island	10	.	.
L005	9	.	.
Harney Pond	21	.	.
Indian Prairie Canal	8	.	4.70
Kings Bar	8	.	.
Kissimmee River	13	.	3.23
Taylor	7	.	.